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**6<sup>th</sup> INTERNATIONAL WINTER SCHOOL ON BIG DATA**

**BigDat 2020**

**Ancona, Italy**

**January 13-17, 2020**

Co-organized by:

Department of Information Engineering, Marche Polytechnic University

Institute for Research Development, Training and Advice (IRDTA)  
Brussels / London

<https://bigdat2020.irdta.eu/>

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--- Regular registration deadline: January 10, 2020 ---

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**SCOPE:**

BigDat 2020 will be a research training event with a global scope aiming at updating participants on the most recent advances in the critical and fast developing area of big data, which covers a large spectrum of current exciting research and industrial innovation with an extraordinary potential for a huge impact on scientific discoveries, medicine, engineering, business models, and society itself. Renowned academics and industry pioneers will lecture and share their views with the audience.

Most big data subareas will be displayed, namely foundations, infrastructure, management, search and mining, security and privacy, and applications (to biological and health sciences, to business, finance and transportation, to online social networks, etc.). Major challenges of analytics, management and storage of big data will be identified through 21 four-hour and a half courses and 1 round table, which will tackle the most active and promising topics. The organizers are convinced that outstanding speakers will attract the brightest and most motivated students. Interaction will be a main component of the event.

An open session will give participants the opportunity to present their own work in progress in 5 minutes. Moreover, there will be two special sessions with industrial and recruitment profiles.

**ADDRESSED TO:**

Master's students, PhD students, postdocs, and industry practitioners will be typical profiles of participants. However, there are no formal pre-requisites for attendance in terms of academic degrees. Since there will be a variety of levels, specific knowledge background may be assumed for some of the courses. Overall, BigDat 2020 is addressed to students, researchers and practitioners who want to keep themselves updated about recent developments and future trends. All will surely find it fruitful to listen and discuss with major researchers, industry leaders and innovators.

### **STRUCTURE:**

3 courses will run in parallel during the whole event. Participants will be able to freely choose the courses they wish to attend as well as to move from one to another.

### **VENUE:**

BigDat 2020 will take place in Ancona, a city founded by Greek settlers and today one of the main ports on the Adriatic Sea. The venue will be:

Department of Information Engineering  
Marche Polytechnic University  
Via Breccie Bianche 12  
60131 Ancona

### **PROFESSORS AND COURSES:**

Sanchita Bhattacharya (University of California, San Francisco),  
[introductory/advanced] Big Data in Immunology: Sharing, Dissemination, and Repurposing

Diego Calvanese (Free University of Bozen-Bolzano), [introductory] Virtual Knowledge Graphs for Data Integration

Sheelagh Carpendale (University of Calgary), [introductory] Data Visualization

Nitesh V. Chawla (University of Notre Dame), [intermediate/advanced] Learning in the Presence of Class Imbalance and Changing Distributions

Amr El Abbadi (University of California, Santa Barbara),  
[introductory/intermediate] An Introduction to Blockchain

Charles Elkan (University of California, San Diego), [intermediate] A Rapid Introduction to Modern Deep Learning

Minos Garofalakis (Technical University of Crete), [intermediate/advanced] Private Data Analytics at Scale

Jiawei Han (University of Illinois, Urbana-Champaign), [intermediate/advanced]  
From Unstructured Text to TextCube: Automated Construction and  
Multidimensional Exploration

Craig Knoblock (University of Southern California), [intermediate/advanced]  
Building Knowledge Graphs

Wladek Minor (University of Virginia), [introductory/advanced] Big Data in  
Biomedical Sciences

Bamshad Mobasher (DePaul University), [intermediate] Context-aware  
Recommender Systems

Jayanti Prasad (Embold Technologies), [introductory/intermediate] Big Code

Lior Rokach and Bracha Shapira (Ben-Gurion University of the Negev),  
[introductory/intermediate] Recommender Systems

Peter Rousseeuw (KU Leuven), [introductory] Anomaly Detection by Robust  
Methods

Asim Roy (Arizona State University), [intermediate] Hardware-based (GPU, FPGA  
based) Machine Learning That Exploits Massively Parallel Computing – An  
Overview of Concepts, Architectures and Neural Network Algorithm  
Implementation

Hanan Samet (University of Maryland), [introductory/intermediate] Sorting in  
Space: Multidimensional, Spatial, and Metric Data Structures for Applications in  
Spatial and Spatio-textual Databases, Geographic Information Systems (GIS), and  
Location-based Services

Rory Smith (Monash University), [introductory/intermediate] Learning from Data,  
the Bayesian Way

Jaideep Srivastava (University of Minnesota), [introductory/intermediate] Social  
Computing

Mayte Suárez-Fariñas (Icahn School of Medicine at Mount Sinai),  
[intermediate/advanced] Meta-analysis Methods for High-dimensional Data

Jeffrey Ullman (Stanford University), [introductory] Big-data Algorithms That  
Aren't Machine Learning (*remote*)

Wil van der Aalst (RWTH Aachen University), [introductory/intermediate] Process  
Mining: A Very Different Kind of Machine Learning That Can Be Applied in Any  
Organization

**OPEN SESSION**

An open session will collect 5-minute voluntary presentations of work in progress by participants. They should submit a half-page abstract containing title, authors, and summary of the research to david@irdta.eu by January 5, 2020.

#### **INDUSTRIAL SESSION:**

A session will be devoted to 10-minute demonstrations of practical applications of big data in industry. Companies interested in contributing are welcome to submit a 1-page abstract containing the program of the demonstration and the logistics needed. People participating in the demonstration must register for the event. Expressions of interest have to be submitted to david@irdta.eu by January 5, 2020.

#### **EMPLOYER SESSION:**

Firms searching for personnel well skilled in big data will have a space reserved for one-to-one contacts. It is recommended to produce a 1-page .pdf leaflet with a brief description of the company and the profiles looked for, to be circulated among the participants prior to the event. People in charge of the search must register for the event. Expressions of interest have to be submitted to david@irdta.eu by January 5, 2020.

#### **ORGANIZING COMMITTEE:**

Emanuele Frontoni (Ancona, co-chair)  
Sara Morales (Brussels)  
Manuel J. Parra-Royón (Granada)  
David Silva (London, co-chair)  
Flavio Tonetto (Ancona, industrial chair)  
Domenico Ursino (Ancona, co-chair)

#### **REGISTRATION:**

It has to be done at

<https://bigdat2020.irdta.eu/registration/>

The selection of up to 8 courses requested in the registration template is only tentative and non-binding. For the sake of organization, it will be helpful to have an estimation of the respective demand for each course. During the event, participants will be free to attend the courses they wish.

Since the capacity of the venue is limited, registration requests will be processed on a first come first served basis. The registration period will be closed and the on-line registration facility disabled when the capacity of the venue is exhausted. It is highly recommended to register prior to the event.

#### **FEES:**

Fees comprise access to all courses and lunches. There are several early registration deadlines. Fees depend on the registration deadline.

**ACCOMMODATION:**

Suggestions for accommodation are available at

<https://bigdat2020.irdta.eu/accommodation/>

**CERTIFICATE:**

A certificate of successful participation in the event will be delivered indicating the number of hours of lectures.

**QUESTIONS AND FURTHER INFORMATION:**

david@irdta.eu

**ACKNOWLEDGMENTS:**

Dipartimento di Ingegneria dell'Informazione, Università Politecnica delle Marche

Institute for Research Development, Training and Advice (IRDTA) –  
Brussels/London

CONFINDUSTRIA Marche Nord

CINI AIIS National Lab

CINI Big Data Laboratory